

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

ASUS Technology Licensing Inc. and Celerity
IP. LLC,

Plaintiffs,

v.

Samsung Electronics Co., Ltd, Samsung
Electronics America, Inc., and Samsung
Research America,

Defendants.

Civil Action No. 2:23-cv-409

JURY TRIAL DEMANDED

Samsung Electronics Co., Ltd, Samsung
Electronics America, Inc., and Samsung
Research America, Inc.

Counterclaim-Plaintiffs,

v.

ASUS Technology Licensing Inc., Celerity IP.
LLC, and ASUSTek Computer, Inc.

Counterclaim-Defendants.

**SAMSUNG’S DISCLOSURES OF ASSERTED CLAIMS AND INFRINGEMENT
CONTENTIONS PURSUANT TO LOCAL PATENT RULE 3-1 AND 3-2**

I. Introduction

Pursuant to Rules 3-1 and 3-2 of the Local Patent Rules of the Eastern District of Texas, Defendants and Counterclaim-Plaintiffs Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Research America, Inc. (collectively “Samsung”) hereby serve their Disclosures of Asserted Claims and Infringement Contentions (“Infringement Contentions”) on

Plaintiffs and Counterclaim-Defendants ASUS Technology Licensing Inc., Celerity IP. LLC, and ASUSTek Computer, Inc. (collectively “ASUS”).

II. Reservations Of Rights

Samsung’s Infringement Contentions are based on information currently available to Samsung. Samsung reserves its right to modify, amend, or supplement these contentions, including in light of discovery, invalidity contentions, claim construction, and/or any additional information provided by Defendants. For example, discovery may reveal new information about the ASUS Accused Products that was previously unknown to Samsung, and Samsung reserves the right to amend or supplement the information provided herein. As another example, Samsung’s contentions may change depending on the Court’s construction of the Asserted Claims and/or positions that ASUS or its experts may take concerning claim construction, infringement, and/or invalidity.

Samsung’s Infringement Contentions are not intended to and should not be interpreted to reflect Samsung’s claim construction positions. Samsung reserves the right to adopt claim construction positions that differ from positions put forth in this document.

III. Patent Rule 3-1(a) Disclosures

Based on information currently available, Samsung asserts that ASUS directly, contributorily, and/or by inducement infringe the following claims (collectively the “Samsung Asserted Claims”):

- Claims 1-9 and 13-20 of U.S. Patent No. 9,913,313 (the “313 Patent” or “Samsung Asserted Patent”)

IV. Patent Rule 3-1(b) Disclosures

Samsung asserts that ASUS infringes each Samsung Asserted Claims by making, using, selling, and offering to sell, and importing into the United States products that support the Wi-Fi

Direct or the Wi-Fi P2P specification (the “ASUS Accused Products”). Examples of the ASUS Accused Products are listed in **Exhibit A**.

Samsung further accuses any other ASUS products that ASUS is currently developing, making, and using, including but not limited to any newer but unreleased versions of the ASUS Accused Products. Samsung reserves its right to supplement this disclosure to include any additional ASUS products it identifies through discovery and its continuing investigation. Samsung further reserves the right to supplement its disclosure to include any additional information it learns about the ASUS Accused Products through discovery and its continuing investigation.

Unless otherwise stated, Samsung’s assertions of infringement apply to all variations, versions, models, and applications of each of the ASUS Accused Products, which, on information and belief, operate in the substantially the same manner for purposes of infringement of the Samsung Asserted Claims.

V. Patent Rule 3-1(c) Disclosures

Samsung’s detailed claim charts are provided in **Exhibit B**.

VI. Patent Rule 3-1(d) Disclosures

Based on its current understanding of the claim language and publicly available information pertaining to the ASUS Accused Products, and without notice of any claim construction or non-infringement position from ASUS, Samsung asserts that ASUS literally infringe each element of the asserted claims. However, Samsung reserves the right to amend its infringement contentions to rely on the doctrine of equivalents, including in view of discovery, arguments made by ASUS regarding infringement, invalidity, or claim construction, and the Court’s claim construction ruling. To the extent that any particular element is shown not to be met literally, Samsung contends infringement under the doctrine of equivalents as there would be no

substantial difference between the elements of the Samsung Asserted Claims and the corresponding functionality in the ASUS Accused Products and/or that the corresponding aspect of the ASUS Accused Products performs substantially the same functionality, in substantially the same way, to achieve substantially the same result(s) as the claimed elements.

VII. Patent Rule 3-1(e) Disclosures

Each of the Samsung Asserted Claim is entitled to a priority date no later than September 14, 2011, based on Korean Patent Application No. 10-2011-0092509.

VIII. Patent Rule 3-1(f) Disclosures

Samsung identifies its Galaxy S Series and Z Series mobile devices as products that practice the Samsung Asserted Claims. Samsung reserves the right to amend its disclosures should more information become available.

IX. Patent Rule 3-2(a) Disclosures

Samsung is currently unaware of any documents responsive to Patent Rule 3-1(a). Samsung reserves the right to amend its disclosures should more information become available.

X. Patent Rule 3-2(b) Disclosures

Samsung identifies documents responsive to Patent Rule 3-2(b) with the following Bates numbers: SEC-AS-00000001 - SEC-AS-00000494. Samsung reserves the right to amend its disclosures should more information become available.

XI. Patent Rule 3-2(c) Disclosures

Samsung identifies documents responsive to Patent Rule 3-2(c) with the following Bates numbers: SEC-AS-00000001 - SEC-AS-00000494.

Dated: March 11, 2023

Respectfully Submitted

By: /s/ Nicholas A. Brown

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America, Inc.***

CERTIFICATE OF SERVICE

I certify that, on March 11, 2024, I caused a true and correct copy of Samsung's Infringement Contentions including the above pleading and the associated exhibits, to be served upon all counsel of record via electronic mail.

/s/ Nicholas A. Brown

Exhibit A: Identification of ASUS Accused Products

The ASUS Accused Products include every variation, version, model, and application of the following product series:

- Expertbook Series
- ProArt Studiobook Series
- Creator Series
- Zenbook Series
- Vivobook Series
- ROG Gaming Series
- TUF Gaming Series
- M Series
- F Series
- L Series
- BR Series
- ExpertCenter Series
- Mini PC Series
- PN Series
- PB Series
- Zen AiO Series
- ASUS AiO Series
- ROG Series
- ROG Strix Series
- ASUS Desktop Series
- ProArt Station Series
- NUC Series

Exhibit B: Claim Chart Showing Infringement Of U.S. Patent No. 9,913,313 (the “’313 Patent”)

ASUS Technology Licensing Inc., Celerity IP. LLC, and ASUSTek Computer, Inc. (collectively “ASUS”) infringe U.S. Patent No. 9,913,313 (the “’313 Patent” or “Samsung Asserted Patent”) either literally or through the doctrine of equivalents, pursuant to 35 U.S.C. §§ 271(a), (b), and (c). ASUS manufactures, uses, sells, offers for sale, and/or imports the ASUS Accused Products within the United States without authority, in a manner that constitutes infringement of claims 1-9 and 13-20 of the ’313 patent (the “Samsung Asserted Claims”).

The ASUS Accused Products include, without limitation, all of ASUS’s products that are made, used, sold, offered for sale, or imported into the United States that support the Wi-Fi Direct or Wi-Fi P2P specification, including each model of the ASUS personal computers such as the Zenbook S13 (UX5304), which is representative all other similar ASUS personal computers.

To the extent any claim limitation is not deemed to be met literally by the ASUS Accused Products, the claim limitation is met under the doctrine of equivalents, including without limitation because it is present by having substantially the same function, in substantially the same way, to achieve substantially the same result, and/or are insubstantially different from the claimed invention.

U.S. 9,913,313	ASUS’s Accused Products Represented By the ASUS Zenbook S13
[1-PRE] A method for connecting to a Wi-Fi network in an electronic device, the method comprising:	The ASUS Zenbook is configured to perform a method for connecting to a Wi-Fi network in an electronic device. <i>See [1a]-[1d].</i>
[1a] entering a device discovery process of Wi-Fi Peer-to-Peer (P2P), if a Wi-Fi P2P connection is requested while connecting a legacy Wi-Fi;	The ASUS Zenbook enters a device discovery process of Wi-Fi Peer-to-Peer (P2P), if a Wi-Fi P2P connection is requested while connecting a legacy Wi-Fi. For example, the ASUS Zenbook may be connected to a legacy Wi-Fi device, such as an access point/router. The network traffic logs below show the Zenbook and an eero router are connected and communicate with each other using legacy Wi-Fi messages over channel 36, as shown for example by the lack of P2P tags in message frame nos. 81, 82, 138, 141.

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ASUS's Accused Products Represented By the ASUS Zenbook S13

819.174446513	ZENBOOK	Broadcast	802.11	5180MHz	36	Probe Request, SN=1024, FN=0, Flags=.....C, SSID="Ramen Orange"
819.175499511	eero_27:5b:94	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=1251, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
819.175522658	eero_27:16:c4	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=3653, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
849.176590006	eero_f2:fa:54	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=3881, FN=0, Flags=.....R...C, BI=100, SSID="Ramen Orange"
859.189989666	ZENBOOK	Broadcast	802.11	5180MHz	36	Probe Request, SN=1025, FN=0, Flags=.....C, SSID="Ramen Orange"
869.191196759	eero_72:1c:a8	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=398, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
879.191204556	eero_27:16:c4	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=3654, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
889.191288537	eero_27:5b:94	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=1252, FN=0, Flags=.....R...C, BI=100, SSID="Ramen Orange"
899.192236866	eero_f2:fa:54	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=3882, FN=0, Flags=.....R...C, BI=100, SSID="Ramen Orange"
909.217623474	ZENBOOK	ZENBOOK	LLC	5180MHz	36	S, Func=RR, N(R)=0; DSAP NULL LSAP Individual, SSAP NULL LSAP Command
919.217625789	ZENBOOK	ZENBOOK	LLC	5180MHz	36	S, Func=RR, N(R)=0; DSAP NULL LSAP Individual, SSAP NULL LSAP Command
> Frame 81: 185 bytes on wire (1480 bits), 185 bytes captured (1480 bits) on interface wlan4, id 0 > Radiotap Header v0, Length 26 > 802.11 radio information > IEEE 802.11 Probe Request, Flags:C > IEEE 802.11 Wireless Management > Tagged parameters (131 bytes) > Tag: SSID parameter set: "Ramen Orange" > Tag: Supported Rates 6, 9, 12, 18, 24, 36, 48, 54, [Mbit/sec] > Tag: HT Capabilities (802.11n D1.10) > Tag: Extended Capabilities (14 octets) > Tag: VHT Capabilities > Ext Tag: HE Capabilities > Ext Tag: FILS Request Parameters > Tag: Vendor Specific: Wi-Fi Alliance: Multi Band Operation - Optimized Connectivity Experience						
1389.242195242	ZENBOOK	eero_72:1c:a8	802.11	5180MHz	36	Authentication, SN=12, FN=0, Flags=.....C
1399.244763878	ZENBOOK	Broadcast	802.11	5180MHz	36	Data, SN=3849, FN=0, Flags=p....F.C
1409.244766748	ZENBOOK	Broadcast	802.11	5180MHz	36	Data, SN=3850, FN=0, Flags=p....F.C
1419.244768767	eero_72:1c:a8	ZENBOOK	802.11	5180MHz	36	Authentication, SN=399, FN=0, Flags=.....C
1429.246329279	ZENBOOK	eero_72:1c:a8	802.11	5180MHz	36	Association Request, SN=13, FN=0, Flags=.....C, SSID="Ramen Orange"
1439.248497106	eero_72:1c:a8	ZENBOOK	802.11	5180MHz	36	Association Response, SN=400, FN=0, Flags=.....C
1449.251962233	ZENBOOK	eero_72:1c:a8	802.11	5180MHz	36	Action, SN=14, FN=0, Flags=.....C
1459.255053718	eero_72:1c:a8	ZENBOOK	EAPOL	5180MHz	36	Key (Message 1 of 4)
1469.257227842	ZENBOOK	eero_72:1c:a8	EAPOL	5180MHz	36	Key (Message 2 of 4)
1479.260568965	eero_72:1c:a8	ZENBOOK	EAPOL	5180MHz	36	Key (Message 3 of 4)
1489.261698259	ZENBOOK	eero_72:1c:a8	802.11	5180MHz	36	Action, SN=15, FN=0, Flags=.....C, Dialog Token=2
1499.262889333	ZENBOOK	eero_72:1c:a8	EAPOL	5180MHz	36	Key (Message 4 of 4)
1509.139381232	ZENBOOK	Broadcast	802.11	5745MHz	149	Probe Request, SN=1022, FN=0, Flags=.....C, SSID="Ramen Orange"
1519.140664198	eero_72:1c:a7	ZENBOOK	802.11	5745MHz	149	Probe Response, SN=3356, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
1529.155101687	ZENBOOK	Broadcast	802.11	5745MHz	149	Probe Request, SN=1023, FN=0, Flags=.....C, SSID="Ramen Orange"
1539.156384727	eero_72:1c:a7	ZENBOOK	802.11	5745MHz	149	Probe Response, SN=3357, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
1549.244869752	ZENBOOK	Broadcast	802.11	2412MHz	1	Data, SN=3241, FN=0, Flags=p....F.C
1559.285506392	ZENBOOK	Broadcast	802.11	2412MHz	1	Data, SN=3242, FN=0, Flags=p....F.C
> Frame 138: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface wlan4, id 0 > Radiotap Header v0, Length 26 > 802.11 radio information > IEEE 802.11 Authentication, Flags:C > IEEE 802.11 Wireless Management > Fixed parameters (6 bytes) Authentication Algorithm: Open System (0) Authentication SEQ: 0x0001 Status code: Successful (0x0000)						

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ASUS's Accused Products Represented By the ASUS Zenbook S13

81 9.174446513	ZENBOOK	Broadcast	802.11	5180MHz	36	Probe Request, SN=1024, FN=0, Flags=.....C, SSID="Ramen Orange"
82 9.175499861	eero_27:5b:94	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=1251, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
83 9.176550086	eero_27:16:c4	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=3653, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
84 9.176550086	eero_f2:fa:54	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=3881, FN=0, Flags=.....R..C, BI=100, SSID="Ramen Orange"
85 9.189989666	ZENBOOK	Broadcast	802.11	5180MHz	36	Probe Request, SN=1025, FN=0, Flags=.....C, SSID="Ramen Orange"
86 9.191196759	eero_72:1c:a8	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=398, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
87 9.191204556	eero_27:16:c4	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=3654, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
88 9.191208537	eero_27:5b:94	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=1252, FN=0, Flags=.....R...C, BI=100, SSID="Ramen Orange"
89 9.192236866	eero_f2:fa:54	ZENBOOK	802.11	5180MHz	36	Probe Response, SN=3882, FN=0, Flags=.....R...C, BI=100, SSID="Ramen Orange"
90 9.217623474	ZENBOOK	ZENBOOK	LLC	5180MHz	36	S, func=RR, N(R)=0; DSAP NULL LSAP Individual, SSAP NULL LSAP Command
91 9.217625789	ZENBOOK	ZENBOOK	LLC	5180MHz	36	S, func=RR, N(R)=0; DSAP NULL LSAP Individual, SSAP NULL LSAP Command
> Frame 82: 278 bytes on wire (2224 bits), 278 bytes captured (2224 bits) on interface wlan4, id 0 > Radiotap Header v0, Length 26 > 802.11 radio information > IEEE 802.11 Probe Response, Flags:C > IEEE 802.11 Wireless Management ~ Fixed parameters (12 bytes) Timestamp: 642193942944 Beacon Interval: 0.102400 [Seconds] Capabilities Information: 0x1131 ~ Tagged parameters (212 bytes) > Tag: SSID parameter set: "Ramen Orange" > Tag: Supported Rates 6 (B), 9, 12 (B), 18, 24 (B), 36, 48, 54, [Mbit/sec] > Tag: Country Information: Country Code US, Environment All > Tag: RSN Information > Tag: QSSS Load Element 802.11e CCA Version > Tag: RM Enabled Capabilities (5 octets) > Tag: Supported Operating Classes > Tag: HT Capabilities (802.11n D1.10) > Tag: HT Information (802.11n D1.10) > Tag: Extended Capabilities (8 octets) > Tag: VHT Capabilities > Tag: VHT Operation > Tag: Tx Power Envelope > Tag: Reduced Neighbor Report > Tag: Vendor Specific: Microsoft Corp.: WMM/WME: Parameter Element						
141 9.244768767	eero_72:1c:a8	ZENBOOK	802.11	5180MHz	36	Authentication, SN=399, FN=0, Flags=.....C
142 9.246329279	ZENBOOK	eero_72:1c:a8	802.11	5180MHz	36	Association Request, SN=13, FN=0, Flags=.....C, SSID="Ramen Orange"
143 9.248457106	eero_72:1c:a8	ZENBOOK	802.11	5180MHz	36	Association Response, SN=400, FN=0, Flags=.....C
144 9.251962233	ZENBOOK	eero_72:1c:a8	802.11	5180MHz	36	Action, SN=14, FN=0, Flags=.....C
145 9.255053718	eero_72:1c:a8	ZENBOOK	EAPOL	5180MHz	36	Key (Message 1 of 4)
146 9.257227842	ZENBOOK	eero_72:1c:a8	EAPOL	5180MHz	36	Key (Message 2 of 4)
147 9.260568965	eero_72:1c:a8	ZENBOOK	EAPOL	5180MHz	36	Key (Message 3 of 4)
148 9.26198259	ZENBOOK	eero_72:1c:a8	802.11	5180MHz	36	Action, SN=15, FN=0, Flags=.....C, Dialog Token=2
149 9.262893933	ZENBOOK	eero_72:1c:a8	EAPOL	5180MHz	36	Key (Message 4 of 4)
150 9.139381232	ZENBOOK	Broadcast	802.11	5745MHz	149	Probe Request, SN=1022, FN=0, Flags=.....C, SSID="Ramen Orange"
151 9.140664104	eero_72:1c:a7	ZENBOOK	802.11	5745MHz	149	Probe Response, SN=3356, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
152 9.155101687	ZENBOOK	Broadcast	802.11	5745MHz	149	Probe Request, SN=1023, FN=0, Flags=.....C, SSID="Ramen Orange"
153 9.156384727	eero_72:1c:a7	ZENBOOK	802.11	5745MHz	149	Probe Response, SN=3357, FN=0, Flags=.....C, BI=100, SSID="Ramen Orange"
154 9.244869752	ZENBOOK	Broadcast	802.11	2412MHz	1	Data, SN=3241, FN=0, Flags=p....F.C
155 9.285506392	ZENBOOK	Broadcast	802.11	2412MHz	1	Data, SN=3242, FN=0, Flags=p....F.C
> Frame 141: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface wlan4, id 0 > Radiotap Header v0, Length 26 > 802.11 radio information > IEEE 802.11 Authentication, Flags:C > IEEE 802.11 Wireless Management ~ Fixed parameters (6 bytes) Authentication Algorithm: Open System (0) Authentication SEQ: 0x0002 Status code: Successful (0x0000)						

The ASUS Zenbook enters a device discovery process of Wi-Fi Peer-to-Peer (P2P), if a Wi-Fi P2P connection is requested while connecting the legacy Wi-Fi, for example when a user uses the "Add Printer" command of the Zenbook while the Zenbook is connected to the eero router. The device discovery process of Wi-Fi P2P is described in further detail in [1b] through [1d].

U.S. 9,913,313	ASUS's Accused Products Represented By the ASUS Zenbook S13																																																																																																																																																																																																																																										
[1b] acquiring a Group Owner (GO) right of Wi-Fi P2P in the device discovery process;	<p>The ASUS Zenbook acquires a Group Owner (GO) right of Wi-Fi P2P in the device discovery process.</p> <p>For example, the network traffic logs below show the ASUS Zenbook transmitting Beacon frames with the P2P Group Owner flag set to 0x1, after the user uses the “Add printer” command.</p> <div><table><tr><td>1754</td><td>36.127488637</td><td>ZENBOOK-ONE</td><td>Broadcast</td><td>802.11</td><td>5180MHz</td><td>36</td><td>0x1</td><td>Beacon frame, SN=0, FN=0, Flags=.....C, BI=100, SSID="DIRECT-YLGT-ASUS-DEVICE2MPXD"</td></tr><tr><td>1755</td><td>36.161753335</td><td>ZENBOOK</td><td>IPv6mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=1033, FN=0, Flags=p....F.C</td></tr><tr><td>1756</td><td>36.161754909</td><td>ZENBOOK</td><td>IPv6mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=1034, FN=0, Flags=p....F.C</td></tr><tr><td>1757</td><td>36.161757946</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=1035, FN=0, Flags=p....F.C</td></tr><tr><td>1758</td><td>36.162784458</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=1036, FN=0, Flags=p....F.C</td></tr><tr><td>1759</td><td>36.180758018</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=193, FN=0, Flags=pm...F.C</td></tr><tr><td>1760</td><td>36.181899774</td><td>ZENBOOK</td><td>IPv6mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=194, FN=0, Flags=pm...F.C</td></tr><tr><td>1761</td><td>36.181901182</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=195, FN=0, Flags=pm...F.C</td></tr><tr><td>1762</td><td>36.181902423</td><td>ZENBOOK</td><td>IPv6mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=196, FN=0, Flags=pm...F.C</td></tr><tr><td>1763</td><td>36.181903701</td><td>ZENBOOK</td><td>Broadcast</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=197, FN=0, Flags=pm...F.C</td></tr><tr><td>1764</td><td>36.181904923</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=198, FN=0, Flags=pm...F.C</td></tr><tr><td>1765</td><td>36.183146608</td><td>ZENBOOK</td><td>IPv6mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=199, FN=0, Flags=pm...F.C</td></tr><tr><td>1766</td><td>36.183147979</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=200, FN=0, Flags=pm...F.C</td></tr><tr><td>1767</td><td>36.183149016</td><td>ZENBOOK</td><td>IPv6mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=201, FN=0, Flags=pm...F.C</td></tr><tr><td>1768</td><td>36.183150164</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=202, FN=0, Flags=pm...F.C</td></tr><tr><td>1769</td><td>36.184228567</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=203, FN=0, Flags=pm...F.C</td></tr><tr><td>1770</td><td>36.184230252</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=204, FN=0, Flags=pm...F.C</td></tr><tr><td>1771</td><td>36.184239604</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=205, FN=0, Flags=pm...F.C</td></tr><tr><td>1772</td><td>36.184241123</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=206, FN=0, Flags=pm...F.C</td></tr><tr><td>1773</td><td>36.184242419</td><td>ZENBOOK</td><td>IPv4mcast_fb</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=207, FN=0, Flags=pm...F.C</td></tr><tr><td>1774</td><td>36.185475975</td><td>ZENBOOK</td><td>IPv6mcast_fb</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=208, FN=0, Flags=pm...F.C</td></tr><tr><td>1775</td><td>36.185477549</td><td>ZENBOOK</td><td>IPv4mcast_fb</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=209, FN=0, Flags=pm...F.C</td></tr><tr><td>1776</td><td>36.185478993</td><td>ZENBOOK</td><td>IPv6mcast_fb</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=210, FN=0, Flags=pm...F.C</td></tr><tr><td>1777</td><td>36.185481197</td><td>ZENBOOK</td><td>IPv4mcast_fb</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=211, FN=0, Flags=pm...F.C</td></tr><tr><td>1778</td><td>36.186499598</td><td>ZENBOOK</td><td>IPv6mcast_fb</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=212, FN=0, Flags=pm...F.C</td></tr><tr><td>1779</td><td>36.186501080</td><td>ZENBOOK</td><td>IPv4mcast_16</td><td>802.11</td><td>5180MHz</td><td>36</td><td></td><td>Data, SN=213, FN=0, Flags=pm...F.C</td></tr></table><pre>Tag Number: Vendor Specific (221) Tag length: 18 OUI: 50:6f:9a (Wi-Fi Alliance) Vendor Specific OUI Type: 9 P2P Capability: Device 0x25 Group 0x8b Attribute Type: P2P Capability (2) Attribute Length: 2 Device Capability Bitmap: 0x25 1 = Service Discovery: 0x1 0 = P2P Client Discoverability: 0x0 1 = Concurrent Operation: 0x1 0 = P2P Infrastructure Managed: 0x0 ...0 = P2P Device Limit: 0x0 ..1. = P2P Invitation Procedure: 0x1 Group Capability Bitmap: 0x8b 1 = P2P Group Owner: 0x1 1 = Persistent P2P Group: 0x1 0 = P2P Group Limit: 0x0 1 = Intra-BSS Distribution: 0x1 0 = Cross Connection: 0x0 ..0. = Persistent Reconnect: 0x0 ..0. = Group Formation: 0x0 ..0. = IP Address Allocation: 0x0 P2P Device ID: b0:3c:dc:da:11:8d Ext Tag: HE Capabilities Ext Tag: HE Operation</pre></div>	1754	36.127488637	ZENBOOK-ONE	Broadcast	802.11	5180MHz	36	0x1	Beacon frame, SN=0, FN=0, Flags=.....C, BI=100, SSID="DIRECT-YLGT-ASUS-DEVICE2MPXD"	1755	36.161753335	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=1033, FN=0, Flags=p....F.C	1756	36.161754909	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=1034, FN=0, Flags=p....F.C	1757	36.161757946	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=1035, FN=0, Flags=p....F.C	1758	36.162784458	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=1036, FN=0, Flags=p....F.C	1759	36.180758018	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=193, FN=0, Flags=pm...F.C	1760	36.181899774	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=194, FN=0, Flags=pm...F.C	1761	36.181901182	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=195, FN=0, Flags=pm...F.C	1762	36.181902423	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=196, FN=0, Flags=pm...F.C	1763	36.181903701	ZENBOOK	Broadcast	802.11	5180MHz	36		Data, SN=197, FN=0, Flags=pm...F.C	1764	36.181904923	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=198, FN=0, Flags=pm...F.C	1765	36.183146608	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=199, FN=0, Flags=pm...F.C	1766	36.183147979	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=200, FN=0, Flags=pm...F.C	1767	36.183149016	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=201, FN=0, Flags=pm...F.C	1768	36.183150164	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=202, FN=0, Flags=pm...F.C	1769	36.184228567	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=203, FN=0, Flags=pm...F.C	1770	36.184230252	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=204, FN=0, Flags=pm...F.C	1771	36.184239604	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=205, FN=0, Flags=pm...F.C	1772	36.184241123	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=206, FN=0, Flags=pm...F.C	1773	36.184242419	ZENBOOK	IPv4mcast_fb	802.11	5180MHz	36		Data, SN=207, FN=0, Flags=pm...F.C	1774	36.185475975	ZENBOOK	IPv6mcast_fb	802.11	5180MHz	36		Data, SN=208, FN=0, Flags=pm...F.C	1775	36.185477549	ZENBOOK	IPv4mcast_fb	802.11	5180MHz	36		Data, SN=209, FN=0, Flags=pm...F.C	1776	36.185478993	ZENBOOK	IPv6mcast_fb	802.11	5180MHz	36		Data, SN=210, FN=0, Flags=pm...F.C	1777	36.185481197	ZENBOOK	IPv4mcast_fb	802.11	5180MHz	36		Data, SN=211, FN=0, Flags=pm...F.C	1778	36.186499598	ZENBOOK	IPv6mcast_fb	802.11	5180MHz	36		Data, SN=212, FN=0, Flags=pm...F.C	1779	36.186501080	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=213, FN=0, Flags=pm...F.C
1754	36.127488637	ZENBOOK-ONE	Broadcast	802.11	5180MHz	36	0x1	Beacon frame, SN=0, FN=0, Flags=.....C, BI=100, SSID="DIRECT-YLGT-ASUS-DEVICE2MPXD"																																																																																																																																																																																																																																			
1755	36.161753335	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=1033, FN=0, Flags=p....F.C																																																																																																																																																																																																																																			
1756	36.161754909	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=1034, FN=0, Flags=p....F.C																																																																																																																																																																																																																																			
1757	36.161757946	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=1035, FN=0, Flags=p....F.C																																																																																																																																																																																																																																			
1758	36.162784458	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=1036, FN=0, Flags=p....F.C																																																																																																																																																																																																																																			
1759	36.180758018	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=193, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1760	36.181899774	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=194, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1761	36.181901182	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=195, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1762	36.181902423	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=196, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1763	36.181903701	ZENBOOK	Broadcast	802.11	5180MHz	36		Data, SN=197, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1764	36.181904923	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=198, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1765	36.183146608	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=199, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1766	36.183147979	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=200, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1767	36.183149016	ZENBOOK	IPv6mcast_16	802.11	5180MHz	36		Data, SN=201, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1768	36.183150164	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=202, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1769	36.184228567	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=203, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1770	36.184230252	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=204, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1771	36.184239604	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=205, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1772	36.184241123	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=206, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1773	36.184242419	ZENBOOK	IPv4mcast_fb	802.11	5180MHz	36		Data, SN=207, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1774	36.185475975	ZENBOOK	IPv6mcast_fb	802.11	5180MHz	36		Data, SN=208, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1775	36.185477549	ZENBOOK	IPv4mcast_fb	802.11	5180MHz	36		Data, SN=209, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1776	36.185478993	ZENBOOK	IPv6mcast_fb	802.11	5180MHz	36		Data, SN=210, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1777	36.185481197	ZENBOOK	IPv4mcast_fb	802.11	5180MHz	36		Data, SN=211, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1778	36.186499598	ZENBOOK	IPv6mcast_fb	802.11	5180MHz	36		Data, SN=212, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
1779	36.186501080	ZENBOOK	IPv4mcast_16	802.11	5180MHz	36		Data, SN=213, FN=0, Flags=pm...F.C																																																																																																																																																																																																																																			
[1c] performing a listen state over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right, and performing a search	<p>The ASUS Zenbook performs a listen state over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right, and performs a search state over a social channel of Wi-Fi P2P.</p> <p>For example, the ASUS Zenbook performs a listen state over the same channel as a channel where the legacy Wi-Fi is in use, such as channel 36. The network traffic logs below the ASUS</p>																																																																																																																																																																																																																																										

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state over a social channel of Wi-Fi P2P; and

ASUS's Accused Products Represented By the ASUS Zenbook S13

Zenbook performs a listen state in which the ASUS Zenbook responds to a Probe Request (e.g., message frames 3307, 3309, 3311) with a Probe Response (e.g., message frames 3309, 3310, 3313). The ASUS Zenbook's listen state is through the acquisition of the GO right, as demonstrate by the ASUS Zenbook's Probe Response that has the P2P Group Owner flag set to 0x1.

3307 46.731153409	ASUS-ROG-three	Broadcast	802.11	5180MHz	36 0x0	Probe Request, SN=596, FN=0, Flags=.....C, SSID="DIRECT-"
3308 46.731157169	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=86, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3309 46.732453318	ASUS-ROG-three	Broadcast	802.11	5180MHz	36 0x0	Probe Request, SN=597, FN=0, Flags=.....C, SSID="DIRECT-"
3310 46.732456726	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=87, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3311 46.733688318	ASUS-ROG-three	Broadcast	802.11	5180MHz	36 0x0	Probe Request, SN=598, FN=0, Flags=.....C, SSID="DIRECT-"
3312 46.733697763	ASUS-ROG-three	Broadcast	802.11	5180MHz	36 0x0	Probe Request, SN=599, FN=0, Flags=.....C, SSID="DIRECT-"
3313 46.733700744	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=88, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3314 46.736029276	ASUS-ROG-three	Broadcast	802.11	5180MHz	36 0x0	Probe Request, SN=600, FN=0, Flags=.....C, SSID="DIRECT-"
3315 46.736038480	ASUS-ROG-three	Broadcast	802.11	5180MHz	36 0x0	Probe Request, SN=601, FN=0, Flags=.....C, SSID="DIRECT-"
3316 46.736040925	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=89, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3317 46.737107215	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=90, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3308 46.731157169	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=86, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3309 46.732453318	ASUS-ROG-three	Broadcast	802.11	5180MHz	36 0x0	Probe Request, SN=597, FN=0, Flags=.....C, SSID="DIRECT-"
3310 46.732456726	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=87, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3311 46.733688318	ASUS-ROG-three	Broadcast	802.11	5180MHz	36 0x0	Probe Request, SN=598, FN=0, Flags=.....C, SSID="DIRECT-"
3312 46.733697763	ASUS-ROG-three	Broadcast	802.11	5180MHz	36 0x0	Probe Request, SN=599, FN=0, Flags=.....C, SSID="DIRECT-"
3313 46.733700744	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=88, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3314 46.736029276	ASUS-ROG-three	Broadcast	802.11	5180MHz	36 0x0	Probe Request, SN=600, FN=0, Flags=.....C, SSID="DIRECT-"
3315 46.736038480	ASUS-ROG-three	Broadcast	802.11	5180MHz	36 0x0	Probe Request, SN=601, FN=0, Flags=.....C, SSID="DIRECT-"
3316 46.736040925	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=89, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3317 46.737107215	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=90, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3318 46.738661762	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=91, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3319 46.738672762	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=92, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3320 46.740970436	ZENBOOK-ONE	ASUS-ROG-three	802.11	5180MHz	36 0x1	Probe Response, SN=93, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3321 46.778248287	ZENBOOK-ONE	Broadcast	802.11	5180MHz	36 0x1	Beacon frame, SN=94, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"
3322 47.087796775	ZENBOOK	Broadcast	802.11	2412MHz	1	Data, SN=129, FN=0, Flags=p....F.C
3323 46.880673192	ZENBOOK-ONE	Broadcast	802.11	5180MHz	36 0x1	Beacon frame, SN=95, FN=0, Flags=.....C, BI=100, SSID="DIRECT-yLGT-ASUS-DEVICE2MPXD"

Vendor Specific OUI Type: 9
▼ P2P Capability: Device 0x25 Group 0x8b
Attribute Type: P2P Capability (2)
Attribute Length: 2
Device Capability Bitmap: 0x25
.... .1 = Service Discovery: 0x1
.... .0 = P2P Client Discoverability: 0x0
.... .1 = Concurrent Operation: 0x1
.... .0 = P2P Infrastructure Managed: 0x0
.... .0 = P2P Device Limit: 0x0
..1. = P2P Invitation Procedure: 0x1
Group Capability Bitmap: 0x8b
.... .1 = P2P Group Owner: 0x1
.... .1 = Persistent P2P Group: 0x1
.... .0 = P2P Group Limit: 0x0
.... .1 = Intra-BSS Distribution: 0x1
.... .0 = Cross Connection: 0x0
..0. = Persistent Reconnect: 0x0
..0. = Group Formation: 0x0
..0. = IP Address Allocation: 0x0
▼ Notice of Absence
Attribute Type: Notice of Absence (12)
Attribute Length: 15
Index: 53
CTWindow and OppPS Parameters: 0x00
0. = OppPS: 0

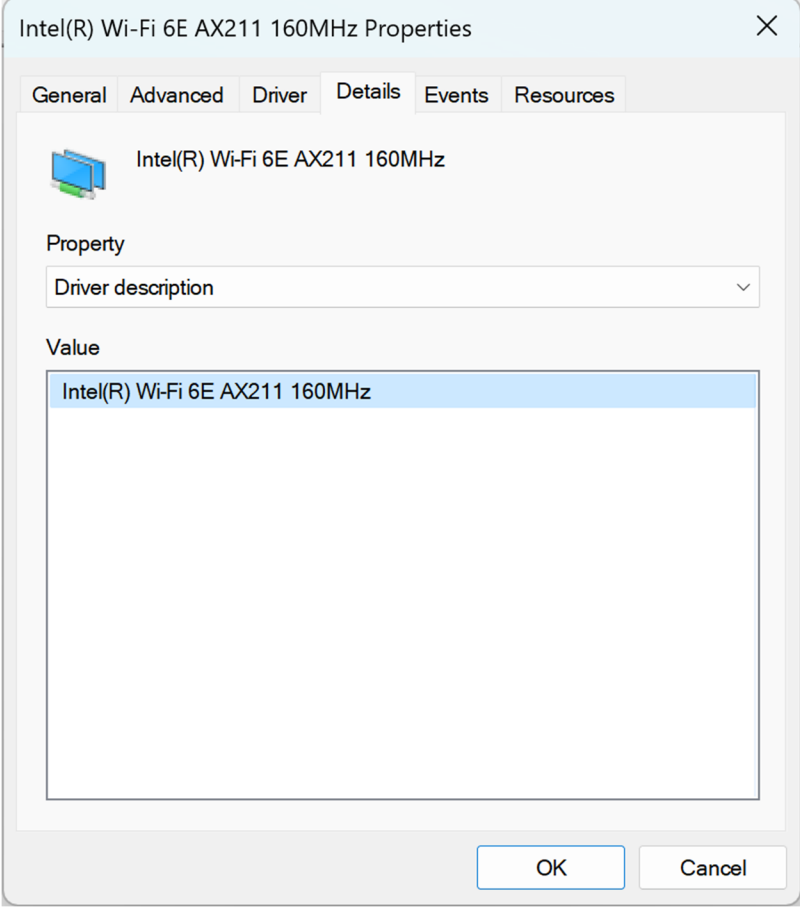
The ASUS Zenbook performs a search state over a social channel of Wi-Fi P2P. As demonstrate below, the ASUS Zenbook sends Probe Requests over a social channel such as channel 11 (e.g., message frame No. 2466, 2500, 2542).

U.S. 9,913,313	ASUS's Accused Products Represented By the ASUS Zenbook S13																																																								
	<table><tr><td>2466 38.288681083</td><td>ZENBOOK-two</td><td>Broadcast</td><td>802.11</td><td>2462MHz</td><td>11 0x0</td><td>Probe Request, SN=1055, FN=0, Flags=.....C, SSID="DIRECT-"</td></tr><tr><td>2467 38.289563868</td><td>PRINTER</td><td>ZENBOOK-two</td><td>802.11</td><td>2462MHz</td><td>11 0x0</td><td>Probe Response, SN=2, FN=0, Flags=.....C, BI=100, SSID="DIRECT-"</td></tr></table> <table><tr><td>2500 38.493571361</td><td>ZENBOOK-two</td><td>Broadcast</td><td>802.11</td><td>2462MHz</td><td>11 0x0</td><td>Probe Request, SN=1057, FN=0, Flags=.....C, SSID="DIRECT-"</td></tr><tr><td>2501 38.659924334</td><td>ZENBOOK</td><td>IPv4mcast_fb</td><td>802.11</td><td>5745MHz</td><td>149</td><td>Data, SN=2804, FN=0, Flags=.pm...F.C</td></tr><tr><td>2502 38.494413164</td><td>PRINTER</td><td>ZENBOOK-two</td><td>802.11</td><td>2462MHz</td><td>11 0x0</td><td>Probe Response, SN=3, FN=0, Flags=.....C, BI=100, SSID="DIRECT-"</td></tr></table> <table><tr><td>2542 38.698302023</td><td>ZENBOOK-two</td><td>Broadcast</td><td>802.11</td><td>2462MHz</td><td>11 0x0</td><td>Probe Request, SN=1058, FN=0, Flags=.....C, SSID="DIRECT-"</td></tr><tr><td>2543 38.864723159</td><td>ZENBOOK</td><td>IPv4mcast_fb</td><td>802.11</td><td>5745MHz</td><td>149</td><td>Data, SN=2814, FN=0, Flags=.pm...F.C</td></tr><tr><td>2544 38.699149993</td><td>PRINTER</td><td>ZENBOOK-two</td><td>802.11</td><td>2462MHz</td><td>11 0x0</td><td>Probe Response, SN=4, FN=0, Flags=.....C, BI=100, SSID="DIRECT-"</td></tr></table>	2466 38.288681083	ZENBOOK-two	Broadcast	802.11	2462MHz	11 0x0	Probe Request, SN=1055, FN=0, Flags=.....C, SSID="DIRECT-"	2467 38.289563868	PRINTER	ZENBOOK-two	802.11	2462MHz	11 0x0	Probe Response, SN=2, FN=0, Flags=.....C, BI=100, SSID="DIRECT-"	2500 38.493571361	ZENBOOK-two	Broadcast	802.11	2462MHz	11 0x0	Probe Request, SN=1057, FN=0, Flags=.....C, SSID="DIRECT-"	2501 38.659924334	ZENBOOK	IPv4mcast_fb	802.11	5745MHz	149	Data, SN=2804, FN=0, Flags=.pm...F.C	2502 38.494413164	PRINTER	ZENBOOK-two	802.11	2462MHz	11 0x0	Probe Response, SN=3, FN=0, Flags=.....C, BI=100, SSID="DIRECT-"	2542 38.698302023	ZENBOOK-two	Broadcast	802.11	2462MHz	11 0x0	Probe Request, SN=1058, FN=0, Flags=.....C, SSID="DIRECT-"	2543 38.864723159	ZENBOOK	IPv4mcast_fb	802.11	5745MHz	149	Data, SN=2814, FN=0, Flags=.pm...F.C	2544 38.699149993	PRINTER	ZENBOOK-two	802.11	2462MHz	11 0x0	Probe Response, SN=4, FN=0, Flags=.....C, BI=100, SSID="DIRECT-"
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[1d] repeating the listen state and the search state until the device discovery process is ended.	<p>The ASUS Zenbook repeats the listen state and the search state until the device discovery process is ended.</p> <p>As explained in [1c] above, the ASUS Zenbook repeats the listen state and the search state. This continues until the device discovery process is ended, such as when the ASUS Zenbook is turned off or otherwise stops Wi-Fi P2P discovery, for example when the Add Printer command terminates.</p>																																																								
2. The method of claim 1, wherein the acquiring comprises enabling an autonomous GO mode in the same channel as the channel where the legacy Wi-Fi is in use.	<p>The ASUS Zenbook is configured such that the acquiring comprises enabling an autonomous GO mode in the same channel as the channel where the legacy Wi-Fi is in use.</p> <p>See [1a]-[1b].</p>																																																								
3. The method of claim 2, further comprising disabling the autonomous GO mode if the device discovery process is ended.	<p>The ASUS Zenbook disables the autonomous GO mode if the device discovery process is ended, such as when the ASUS Zenbook is turned off or otherwise stops Wi-Fi P2P discovery, for example when the Add Printer command terminates. See [1d].</p>																																																								
4. The method of claim 1, wherein the social channel includes a channel #1, a channel #6 and a channel #11.	<p>The ASUS Zenbook is configured such that the social channel in which it performs a search includes a channel #1, a channel #6 and a channel #11.</p> <p>See [1d].</p>																																																								
5. The method of claim 1, wherein the entering of the device discovery process of Wi-	<p>The ASUS Zenbook is configured such that the entering of the device discovery process of Wi-Fi P2P occurs based on at least one of a menu selection and execution of a predetermined application.</p>																																																								

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Fi P2P occurs based on at least one of a menu selection and execution of a predetermined application.	<i>See</i> [1a].
6. The method of claim 1, wherein the entering of the device discovery process comprises performing a channel scanning process.	<p>The ASUS Zenbook is configured such that the entering of the device discovery process comprises performing a channel scanning process.</p> <p>The ASUS Zenbook supports Wi-Fi P2P standard (<i>see</i> [1b]), and thus its device discovery process comprises a channel scanning process.</p> <div data-bbox="667 591 1921 979" style="border: 1px solid black; padding: 10px;"> <p>3.1.2 Device Discovery procedures</p> <p>3.1.2.1 Basic mechanisms of Device Discovery</p> <p>The objective of P2P Device Discovery is to find P2P Devices and quickly determine the P2P Device to which a connection will be attempted. In-band P2P Device Discovery consists of two major phases: Scan and Find, which are described in detail in the following sections. Alternatively, if two P2P Devices support NFC, the user may specify the target device by touching the P2P Device's NFC Interface to the corresponding device's NFC Interface. Such NFC Out-of-Band Device Discovery is defined in Section 3.1.2.7.</p> </div> <div data-bbox="667 1000 1921 1252" style="border: 1px solid black; padding: 10px;"> <p>3.1.2.1.2 Scan Phase</p> <p>The Scan Phase uses the scanning process defined in IEEE 802.11-2020 [1]. It may be used by a P2P Device to find P2P Devices or P2P Groups and to locate the best potential Operating Channel to establish a P2P Group. In the Scan Phase, devices collect information about surrounding devices or networks by scanning all supported channels.</p> </div> <p>Wi-Fi Direct Specification Version 1.9.</p>
7. The method of claim 1, further comprising connecting to the Wi-	The ASUS Zenbook is configured to perform a method of connecting to the Wi-Fi P2P based on a result of the listen state and the search state.

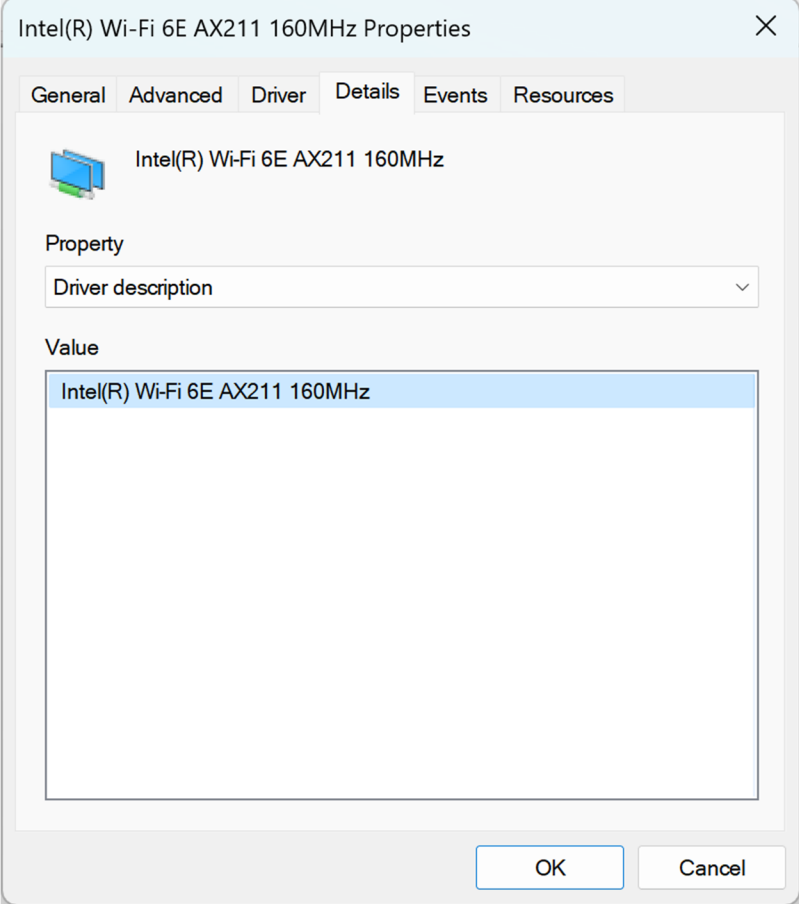
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Fi P2P based on a result of the listen state and the search state.	For example, based on a result of the listen state and the search state described above in [1c], the ASUS Zenbook is configured to connect to the printer.
[8-PRE] A method for connecting to a Wi-Fi network in an electronic device, the method comprising:	The ASUS Zenbook is configured to perform a method for connecting to a Wi-Fi network in an electronic device (e.g., the ASUS Zenbook). <i>See</i> [8a]-[8b].
[8a] acquiring a Group Owner (GO) right of Wi-Fi Peer-to-Peer (P2P), if an entry into a listen mode of Wi-Fi P2P is requested during execution of a legacy Wi-Fi; and	The ASUS Zenbook acquires a Group Owner (GO) right of Wi-Fi Peer-to-Peer (P2P), if an entry into a listen mode of Wi-Fi P2P is requested during execution of a legacy Wi-Fi. The ASUS Zenbook may be configured for execution of a legacy Wi-Fi, such as being connected to a legacy Wi-Fi device such as an eero router. <i>See</i> [1a]. The ASUS Zenbook acquires a Group Owner (GO) right of Wi-Fi Peer-to-Peer (P2P), if an entry into a listen mode of Wi-Fi P2P is requested during execution of a legacy Wi-Fi (such as when a user uses the “Add Printer” command of the Zenbook while the Zenbook is connected to the eero router as described in [1a]). This is demonstrated by the ASUS Zenbook transmitting Beacon frames with the P2P Group Owner flag set to 0x1, as described in [1b], and the ASUS Zenbook performing a listen mode in which it responds to a Probe Request (e.g., message frames 3307, 3309, 3311) with a Probe Response (e.g., message frames 3309, 3310, 3313), as described in [1c].
[8b] entering the listen mode over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right.	The ASUS Zenbook enters the listen mode over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right. <i>See</i> [8a] and [1c].
9. The method of claim 8, wherein the GO right of Wi-Fi P2P is acquired as an autonomous GO mode is enabled in the same channel as the	The ASUS Zenbook is configured such that the GO right of Wi-Fi P2P is acquired as an autonomous GO mode is enabled in the same channel as the channel where the legacy Wi-Fi is in use. <i>See</i> claim 2.

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channel where the legacy Wi-Fi is in use.	
[13-PRE] An apparatus for connecting to a Wi-Fi network in an electronic device, the apparatus comprising:	The ASUS Zenbook comprises an apparatus for connecting to a Wi-Fi network in an electronic device (e.g., the ASUS Zenbook). <i>See</i> [13a] to [13b-6].
[13a] a communication module; and	The ASUS Zenbook comprises a communication module, such as an Intel Wi-Fi 6E AX211 communications unit:

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<p>[13b-1] a controller operatively coupled with the communication module, the controller configured to:</p>	<p>The ASUS Zenbook comprises a controller operatively coupled with the communication module.</p> <p>In particular, the ASUS Zenbook includes a controller which includes hardware and software operatively coupled with the communication module and configured to perform the functions recited below.</p> <p>See [13b-2]-[13b-6].</p>

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[13b-2] enter a device discovery process of Wi-Fi Peer-to-Peer (P2P), if a Wi-Fi P2P connection is requested while connecting a legacy Wi-Fi,	The ASUS Zenbook's controller enters a device discovery process of Wi-Fi Peer-to-Peer (P2P), if a Wi-Fi P2P connection is requested while connecting a legacy Wi-Fi. <i>See</i> [1a].
[13b-3] acquire a Group Owner (GO) right of Wi-Fi P2P in the device discovery process,	The ASUS Zenbook's controller acquires a Group Owner (GO) right of Wi-Fi P2P in the device discovery process. <i>See</i> [1b].
[13b-4] perform a listen state over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right, and perform a search state over a social channel of Wi-Fi P2P, and	The ASUS Zenbook's controller performs a listen state over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right, and perform a search state over a social channel of Wi-Fi P2P. <i>See</i> [1c].
[13b-5] repeat the listen state and the search state until the device discovery process is ended.	The ASUS Zenbook's controller repeats the listen state and the search state until the device discovery process is ended. <i>See</i> [1d].
14. The apparatus of claim 13, wherein the controller is further configured to enable an autonomous GO mode in the same channel as the channel where the legacy Wi-Fi is in use.	The ASUS Zenbook's controller is further configured to enable an autonomous GO mode in the same channel as the channel where the legacy Wi-Fi is in use. <i>See</i> claim 2.
15. The apparatus of claim 14, wherein the controller is further configured to disable the	The ASUS Zenbook's controller is further configured to disable the autonomous GO mode if the device discovery process is ended.

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autonomous GO mode if the device discovery process is ended.	<i>See</i> claim 3.
16. The apparatus of claim 13, wherein the controller is further configured to connect to the Wi-Fi P2P based on a result of the listen state and the search state.	The ASUS Zenbook's controller is further configured to connect to the Wi-Fi P2P based on a result of the listen state and the search state. <i>See</i> claim 7.
[17-PRE] An apparatus for connecting to a Wi-Fi network in an electronic device, the apparatus comprising:	The ASUS Zenbook comprises an apparatus for connecting to a Wi-Fi network in an electronic device (e.g., the ASUS Zenbook). <i>See</i> [17a] to [17b-3].
[17a] a communication module; and	The ASUS Zenbook comprises a communication module, such as an Intel Wi-Fi 6E AX211 communications unit:

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<p>[17b-1] a controller operatively coupled with the communication module, the controller configured to:</p>	<p>The ASUS Zenbook comprises a controller operatively coupled with the communication module. For example, the ASUS Zenbook includes a controller which includes hardware and software operatively coupled with the communication module and configured to perform the functions recited below.</p> <p><i>See [17b-2]-[17b-3].</i></p>

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[17b-2] acquire a Group Owner (GO) right of Wi-Fi Peer-to-Peer (P2P), if an entry into a listen mode of Wi-Fi P2P is requested during execution of a legacy Wi-Fi, and	The ASUS Zenbook's controller acquires a Group Owner (GO) right of Wi-Fi Peer-to-Peer (P2P), if an entry into a listen mode of Wi-Fi P2P is requested during execution of a legacy Wi-Fi. <i>See</i> [8a].
[17b-3] enter the listen mode over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right.	The ASUS Zenbook's controller enters the listen mode over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right. <i>See</i> [8b].
18. The apparatus of claim 17, wherein the GO right of Wi-Fi P2P is acquired as an autonomous GO mode is enabled in the same channel as the channel where the legacy Wi-Fi is in use.	The ASUS Zenbook in configured such that the GO right of Wi-Fi P2P is acquired as an autonomous GO mode is enabled in the same channel as the channel where the legacy Wi-Fi is in use. <i>See</i> claims 2 and 9.
[19-PRE] At least one non-transitory computer readable storage medium for storing a computer program of instructions configured to be readable by at least one processor for instructing the at least one processor to execute a computer process for performing a method for connecting to a Wi-Fi network in an electronic device, the method comprising:	The ASUS Zenbook comprises at least one non-transitory computer readable storage medium (such as random access memory) for storing a computer program of instructions configured to be readable by at least one processor (such as its CPU and/or Wi-Fi chip processor) for instructing the at least one processor to execute a computer process for performing a method for connecting to a Wi-Fi network in an electronic device (such as the ASUS Zenbook). <i>See</i> [19a]-[19d].

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[19a] entering a device discovery process of Wi-Fi Peer-to-Peer (P2P), if a Wi-Fi P2P connection is requested while connecting a legacy Wi-Fi;	The ASUS Zenbook comprises computer program for entering a device discovery process of Wi-Fi Peer-to-Peer (P2P), if a Wi-Fi P2P connection is requested while connecting a legacy Wi-Fi. <i>See</i> [1a].
[19b] acquiring a Group Owner (GO) right of Wi-Fi P2P in the device discovery process;	The ASUS Zenbook comprises computer program for acquiring a Group Owner (GO) right of Wi-Fi P2P in the device discovery process. <i>See</i> [1b].
[19c] performing a listen state over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right, and performing a search state over a social channel of Wi-Fi P2P; and	The ASUS Zenbook comprises computer program for performing a listen state over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right, and performing a search state over a social channel of Wi-Fi P2P. <i>See</i> [1c].
[19d] repeating the listen state and the search state until the device discovery process is ended.	The ASUS Zenbook comprises computer program for repeating the listen state and the search state until the device discovery process is ended. <i>See</i> [1d].
[20-PRE] At least one non-transitory computer readable storage medium for storing a computer program of instructions configured to be readable by at least one processor for instructing the at least one processor to execute a computer process for performing a method for connecting to a Wi-Fi network in	The ASUS Zenbook comprises at least one non-transitory computer readable storage medium (such as random access memory) for storing a computer program of instructions configured to be readable by at least one processor (such as its CPU and/or Wi-Fi chip processor) for instructing the at least one processor to execute a computer process for performing a method for connecting to a Wi-Fi network in an electronic device(such as the ASUS Zenbook). <i>See</i> [20a]-[20b].

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an electronic device, the method comprising:	
[20a] acquiring a Group Owner (GO) right of Wi-Fi Peer-to-Peer (P2P), if an entry into a listen mode of Wi-Fi P2P is requested during execution of a legacy Wi-Fi; and	The ASUS Zenbook comprises computer program for acquiring a Group Owner (GO) right of Wi-Fi Peer-to-Peer (P2P), if an entry into a listen mode of Wi-Fi P2P is requested during execution of a legacy Wi-Fi. <i>See</i> [8a].
[20b] entering the listen mode over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right.	The ASUS Zenbook comprises computer program for entering the listen mode over the same channel as a channel where the legacy Wi-Fi is in use, through the acquisition of the GO right. <i>See</i> [8b].